

Work Order ID 79874

79874

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February 6, 2012 3:58:55 PM

Item ID: D6101-005 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Saddle Billet
 Start Date: 2/06/12 Start Qty: 40.00 ***40*** Cust Item ID:
 Required Date: 2/10/12 Req'd Qty: 40.00 ***40*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D6101	Rev B

100 PURCHASING 0.00

100

Purchasing

Purchasing

Memo

Issue P/O:

16108

a) Description: Alluminum billet

b) 5.00" x 8.250" x 2.50" thick

c) Tolerance on all dimensions are +0.030"/-0.000"

d) Grain direction along 5.00" length

e) Material: 7075-T7351 (QQ-A-250/12)

f) Material certification required

0.00

CL 12/02/06 40

110 Receive & Inspect for Damage & Mat'l Certs 0.00

110

Packaging

Packaging

Memo

Ensure material certification is attached

0.00

12/2/16 (40)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 79874

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February 6, 2012 3:58:55 PM

Item ID: D6101-005 Accept ***N900040100*** Setup Start ***NS1***
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 Item Name: Saddle Billet
 Start Date: 2/06/12 Start Qty: 40.00 ***40*** Cust Item ID:
 Required Date: 2/10/12 Req'd Qty: 40.00 ***40*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC6- Inspect dimensions to drawing Memo Ensure Material certification comply to Dwg D6101	0.00 0.00	<i>on 12/02/16</i>			<u>40</u>	<u>0</u>		
130 *130* Packaging Packaging	Identify as per dwg & Stock Location: <u>MAT44</u> Memo	0.00 0.00	<i>on 12/02/16</i>			<u>40</u>	<u>0</u>		
140 *140* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00							<i>12/2/21</i>

12-02-17
HO

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

February 6, 2012 3:58:54 PM

Page 1

Work Order ID: 79874

Parent Item: D6101-005

Parent Item Name: Saddle Billet

Start Date: 2/06/12

Required Date: 2/10/12

Start Qty: 40.00

Required Qty: 40.00

Comments: IPP A: 01.05.04New IssueC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-005P 7075-T7351 8.25X5.0X2.5		Purchased	No			110	Each	0.0000	1	40		2/2/12	69

Dart Aerospace Ltd

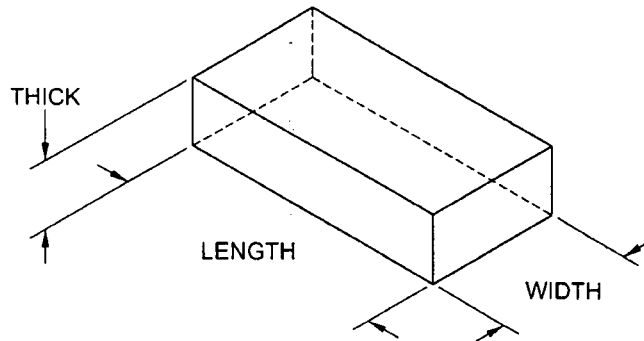
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

SPECIFICATION CONTROL DRAWING



PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

B ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12, QQ-A-250/12, OR ASTM B209

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length
D6101-015	7075-T7351 (QQ-A-250/12)	9.450	6.250	2.500	Along 9.450 Length
D6101-017	7075-T7351 (QQ-A-250/12)	6.350	6.250	2.250	Along 6.350 Length

B

RELEASED
09/07/15/WP

CL12102105
w10: 79874

B	ADDED D6101-015/-017, ADD ASTM B209	RF	09.04.23
A	NEW ISSUE	CP	01.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D6101	SHEET 1 OF 1
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	SADDLE BILLET, 7075	NTS
DATE	09.04.23	<small>COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

**Castle Metals®**

A. M. Castle & Co.

BORDEREAU DE MARCHANDISES

Page 1 of 2

No de Formulaire d'Emballage / Shipment No: 1188092

Expédié de / Ship From:		Vendu à / Sold To:		Expédié à / Ship To:		Livré à / Deliver To:	
A. M. Castle & Co. (Canada) Inc. MONTREAL 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2		DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		WILL CALL-MONTREAL 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		WILL CALL-MONTREAL 835 SELKIRK AVENUE POINTE CLAIRE, QC H9R 3S2 CA	
Date d'expédition / Date Shipped	F.O.B.	Modalités de transport / Freight Terms		Transporteur / Carrier		No du Bon de connaissance / BOL No	
15-FEB-2012	ORIGIN	Prepaid		MANITOULIN		1188092-2	

Détails d'expédition / Shipment Details	Destination finale / Final Destination Branch - MON
--	--

N° de commande / Order No 1992469	N° de ligne / Line No 1	N° d'article / Item No 752241.MO	Description 2.5000.PL.7075.T7351.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 8.25 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 5")) X 5 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 5")) - ALUMINUM PLATE SAW SPECIFICATIONS: QQ-A-250/12
N° de bon de commande / Purchase Order No 16108	Nbre de pièces / Part Number YOUR ITEM NUMBER: D6101-005	Qté commandée / Ordered Qty 40.00 PCS	Qté Facturée / Invoice Qty 40.0000 PCS

Détails / Details							
N° de livraison / Delivery No :	Usine / Mill	No de coulée / Heat Number	Code méc / Mech Id	Pièces / PCS	Largeur (Pouce) / Width (IN)	Longueur (Pouce) / Length (IN)	Qté expédiée / Shipped Qty(LBS)
117362931		433111		25			266.64
117362931		433111		10			106.66
117362931		527601		4			42.66
117362931		527601		1			10.67

Ces marchandises/technologies sont sujettes aux règlements de l'Export Administration et du département d'état des États-Unis. Si elles ont été/sont exportées, elles doivent se conformer à ces règlements. Toute modification du contrat de transport contraire aux lois des États-Unis est interdite.

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

Nous certifions par la présente que le matériel couvert par cette certification est conforme aux spécifications susmentionnées et aux exigences applicables pour le matériel, y compris toute spécification faisant partie de la description. Les rapports d'

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to US law prohibited.
Date Printed: 15-FEB-2012 02:40:48 PM



Castle Metals®

A. M. Castle & Co.

BORDEREAU DE MARCHANDISES

Page 2 of 2

<p>essai sont archivés pour fins de consultation. Toute requête concernant du matériel défectueux sera rejetée à moins qu'elle ne soit faite par écrit à A. M. Castle & Co. dans les 60 jours suivant la livraison. Le matériel coupé sur mesure ou coupé par le client ne peut être retourné pour crédit.</p> <p>We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.</p>		
<p>Ce matériel a été reçu et inspecté par Reviewed by Authorized Castle Metals Representative:</p>	<p>Date:</p>	<p>Name:</p>

CERTIFIED INSPECTION REPORT

Alcoa Inc.

PITTSBURGH, PA DAVENPORT WORKS

Ship From: RIVERDALE, IA.

We hereby certify that the material covered by this certificate has been inspected with, and has been found to meet, the applicable requirements described therein, including any specifications forming a part of the description and that samples representative of the material met the composition limits and had the mechanical properties shown on the face of this sheet.

Per

Alcalon Murphy
Director of Manufacturing Davenport Works

Kenton P. Young
Quality Assurance Manager

1028639	0				
Ship Date	B.L. No.	Invoice No.	Alcoa No.	Item	Page 1
2009-07-06	4066185	00000	1000117894-1		
P.O. No./Govt Contract No.	Customer	Alcoa Item	Mfg Order		
8876	A M CASTLE&COMPAG041109843R02DS-17894-01-1				

Ship To: A M CASTLE & COMPANY
12 CASCADE BOULEVARD
ORANGE 06477 CT

Item Description
2.5 IN TK (+.075 -.075) X 48.5 IN W (+.3125 - 0.000) X 144.5 IN LN (+.5 -0.0) CAT X 752241 (N) A/T 7075-
T7351 RECTANGLE MILL FINISH, USI 3MM DEAD ZONE REQ'D BOTH SIDES,
SAWED 752241. AMS-QQ-A-250/12 IS 2007 AMS-STD-
2154 EXC MRK AMS4078 REV G BSS7055 REV A
CST1006 REV D GAMPS9101 REV B EXC MRK MMS159
REV N PS21211 REV K ((MARKED)) NOT
INTERLEAVED MAX GROSS SKID WGT: 5000 LB QUAN TOL +/-
40 % USI CL A 3 MM CQR 0222142 REV 02 CUST REQ 09-06-
22 *** W/B 09-06-27 ***

Num	Package Ticket	Lot	Weight	Quantity	UOM	Pc Id/Serl
1	741658 Clock Nmbr (47118)	527601	1788	1	PC	:
2	741662 Clock Nmbr (47118)	527601	3560	2	PC	:
3	741663 Clock Nmbr (47118)	527601	3580	2	PC	:
			8928	5		

RECEIVED
JUL 08 2009

Notes for CQR: 0222142.2

PRODUCT PRODUCED AND MARKED TO THE REQUIREMENTS OF AMS-QQ-A-250/12 ALSO MEETS THE REQUIREMENTS OF QQ-A-250/12F. PROD UCT
PRODUCED AND MARKED TO THE REQUIREMENTS OF QQ-A-250/12 F ALSO MEETS THE REQUIREMENTS OF AMS-QQ-A-250/12.
THIS MATERIAL HAS BEEN ULTRASONICALLY INSPECTED FULLY IMMERSION - TYPE I.
PRODUCT PRODUCED TO THE REQUIREMENTS OF MIL-STD-2154 ALSO MEET THE REQUIREMENTS OF AMS-STD-2154. PRODUCT PRODUCED TO THE
REQUIREMENTS OF AMS-STD-2154 ALSO MEET THE REQUIREMENTS OF MIL-STD-2154.
THIS MATERIAL HAS BEEN ULTRASONICALLY INSPECTED FULLY IMMERSION - TYPE I.

CQR: 0222142.2 -Specification Limits

Temp	Dir	Max	Min	UTS KSI	TYS KSI	EL40 PCT
T7351	Long Transv.	63.9				
		66.0	52.0			6
T7351	Elec. Cond. (RC) & MIN	38.0				PCT

RECEIVED
2009

CERTIFIED INSPECTION REPORT

Alcoa Inc.

PITTSBURGH, PA DAVENPORT WORKS

Ship From: RIVERDALE, IA.

We hereby certify that the material covered by this certificate has been inspected with, and has been found to meet, the applicable requirements described therein, including any specifications forming a part of the description and that samples representative of the material met the composition limits and had the mechanical properties shown on the face of this sheet.

Per:

Malcolm Murphy
Director of Manufacturing Davenport Works

Kenton P. Young
Quality Assurance Manager

1028639	0				
Ship Date	B.L. No.	Invoice No.	Alcoa No.	Item	Page 2
2009-07-06	4066185	00000	1000117894-1		
P.O. No./Govt Contract No.	Customer	Alcoa Item	Mfg Order		
8876	A M CASTLE&COMPAG	041109843R02DS-17894-01-1			

CQR: 0222142.2 -Specification Limits (cont.)

Chemical Composition		SI	FE	CU	MN	MG	CR	ZN	TI	Other	Other	
		Max	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.15
		Min		1.2		2.1	0.18	5.1				
Alloy 7075												
Lot: 527601	- Mechanical, Physical, Metallography, Quantometer Results											REMAIN
Temp	Dir	No->	UTS		TYS		BLAD					
		Test	KSI		KSI		PCT					
T7351	Long Transv.	3	70.7		58.8		10.6					
			71		59.6		10.5					
			69.8		58		10.5					

T7351 Elect Cond %IACS 40.2 40.4 40.9 PCT

Cast Number	Chemical - OES	SI	FE	CU	MN	MG	CR	ZN	TI
H4526036	Actuals	0.05	0.27	1.7	0.01	2.5	0.19	5.7	0.02

This material was melted in the United States or a Qualifying Country [REF DFARS 225.872.1(a)]; it was manufactured in the United States

CERTIFIED INSPECTION REPORT

Alcoa Inc.

PITTSBURGH, PA DAVENPORT WORKS

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Per:

Malcolm Murphy
Director of Manufacturing Davenport Works

Kerton P. Young
Quality Assurance Manager

1003162	0				
Ship Date	B.L. No.	Invoice No.	Alcoa No.	Item	Page
2009-02-21	3489167	00000	1000077385-1		1
P.O. No./Govt Contract No.	Customer	Alcoa Item	Mfg Order		
23-14841	CASTLE A M	G041005634R09	DS-77385-1		

Ship To: A M CASTLE & COMPANY
3050 SOUTH HYDRAULIC
WICHITA 67216 KS

Item Description

2.5 IN TK (+.075 -.075) X 48.5 IN W (+.3125 - 0.000) X 144.5 IN LN (+.5 -.0) CAT D 164168 (N) A/T 7075-T7351 RECTANGLE MILL FINISH, US1 3MM DEAD ZONE REQ'D BOTH SIDES, SAWED (IAC 6879) EXC MRK A97075-60 REV 24 AMS-QQ-A-250/12 IS 2007 AMS-STD-2154 EXC MRK AMS4078 REV G EXC MRK ASTMB209 REV 07 ASTNB594 REV 06 BSS7055 REV A EXC MRK MMS159 REV N PS21211 REV K ((MARKED)) KRAFT PAPER INTERLEAVED MAX GROSS SKID WGT: 4500 LB QUAN TOL +/- 25 % US1 CL A 3 MM CQR 0137890 REV 18 CUST REQ 09-02-20 *** W/E 09-02-28 ***

Num	Package Ticket	Lot	Weight	Quantity	UOM	Pc Id/Serl
1	717567	433111 ✓	3571	2	PC	:

Notes for CQR: 0137890.18

PRODUCT PRODUCED TO THE REQUIREMENTS OF MIL-STD-2154 ALSO MEET THE REQUIREMENTS OF AMS-STD-2154. PRODUCT PRODUCED TO THE REQUIREMENTS OF AMS-STD-2154 ALSO MEET THE REQUIREMENTS OF MIL-STD-2154. THIS MATERIAL HAS BEEN ULTRASONICALLY INSPECTED FULLY IMMERSION - TYPE I. PRODUCT PRODUCED AND MARKED TO THE REQUIREMENTS OF AMS-QQ-A-250/12 ALSO MEETS THE REQUIREMENTS OF QQ-A-250/12F. PRODUCT PRODUCED AND MARKED TO THE REQUIREMENTS OF QQ-A-250/12 F ALSO MEETS THE REQUIREMENTS OF AMS-QQ-A-250/12. THIS MATERIAL HAS BEEN ULTRASONICALLY INSPECTED FULLY IMMERSION - TYPE I.

CQR: 0137890.18 -Specification Limits

Temp	Dir	UTS	TYS	EL4D
		KSI	KSI	PCT
T7351	Long Transv.	Max	63.9	
		Min	66.0	6
T7351	Elec. Cond. (EC)	% MIN	38.0	PCT

Chemical Composition	SI	FE	CU	MN	MG	CR	ZN	TI	Other	Other
									Each	Total
Alloy 7075	Max	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.05	0.15
	Min			1.2		2.1	0.18	5.1		

REMAIN

CASTLE METALS-WIC
DATE REC'D 2-23-09
REC'D FROM 5744
APPROVED BY

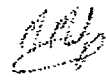
CERTIFIED INSPECTION REPORT

Alcoa Inc.

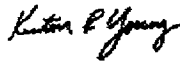
PITTSBURGH, PA DAVENPORT WORKS

Ship From: RIVERDALE, IA.

We hereby certify that the material covered by this certificate has been inspected with, and has been found to meet, the applicable requirements described therein, including any specifications forming a part of the description and that samples representative of the material met the composition limits and had the mechanical properties shown on the face of this sheet.



Malcolm Murphy
Director of Manufacturing Davenport Works



Kenson P. Young
Quality Assurance Manager

1003162 Ship Date	0 B.L. No.	Invoice No.	Alcoa No. Item	Page 2
2009-02-21	3489167	00000	1000077385-1	
P.O. No./Govt Contract No.	Customer	Alcoa Item	Mfg Order	
23-14841	CASTLE A M	G041005634R09	DS-77385-1	

CQR: 0137890.18 -Specification Limits (cont.)

Lot: 433111 - Mechanical, Physical, Metallography, Quantometer Results

Temp	Dir	No-> Test	UTS KSI	TYS KSI	EL4D PCT
T7351	Long Transv.	3	69.9	58.2	10.5
			69.5	58.2	10.8
			69.6	58.1	10.7

T7351 Elect Cond %IACS 40.7 41.4 40.8 PCT

Cast Number	Chemical - QRS	SI	FE	CU	MN	MG	CR	ZN	TI
H9167054	Actuals	0.07	0.28	1.6	0.03	2.5	0.19	5.7	0.02

This material was melted in the United States or a Qualifying Country [REF DFARS 225.872.1(a)]; it was manufactured in the United States